Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended): A method for dynamically modulating driving current applied to a backlight module, comprising the steps of:

calculating the brightness distribution of a pixel on a frame;

determining the value of the driving current of the backlight module according to the calculated brightness distribution; and

applying the determined driving current to the backlight module during at least one vertical scanning period;

wherein the brightness distribution is calculated according to the percentage of high brightness pixels whose gradation levels are respectively larger than a default level, and the driving current is adjusted in terms of the percentage.

2. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 1, wherein if the brightness distribution is concentrated in high brightness, the value of the driving current is increased so as to raise the luminous intensity of the backlight module.

3. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 1, wherein if the brightness distribution is concentrated in low brightness, the value of the driving current is decreased so as to reduce the luminous intensity of the backlight module.

4. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 1, wherein the driving current of the backlight module begins to be modulated every one to sixty vertical scanning periods.

5. (currently amended): The method for dynamically modulating driving current applied to a backlight module of Claim 1, wherein the default level is decimal level 31 when the gradation level is represented as 6-bit binary data ~~the brightness distribution is calculated according to the percentage of the high brightness pixels, and the driving current is adjusted in terms of the percentage~~.

6 – 13. (cancelled)

14. (currently amended): ~~The~~ A method for dynamically modulating driving current applied to a backlight module, comprising the steps of:

calculating the brightness distribution of a pixel on a frame;

designating various gradation ranges to represent corresponding brightness of red, green and blue sub pixels on the frame;

counting the amount of the sub pixels pertaining to each of the gradation ranges to have brightness range indices;

calculating a bright distribution index for the frame according to the brightness range indices;

determining the value of the driving current of the backlight module according to the calculated brightness distribution; and

applying the determined driving current to the backlight module during at least one vertical scanning period~~.~~;

wherein the brightness distribution index is expressed as an equation of the brightness ranges indices multiplied by corresponding weighted numbers, the weighted numbers are generated based on the gradation ranges, and each of the weighted numbers is not less than 0.

15. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 14, wherein the brightness range indices can be expressed as a function of the amount of the sub pixels pertaining to each of the gradation ranges with a polynomial of multi-power terms, trigonometric function terms or logarithmic function terms, and the function is dependent on requirements of the backlight module.

16. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 14, wherein the brightness distribution index can be expressed as a function of the brightness range indices with a polynomial of multi-power terms, trigonometric function terms or logarithmic function terms, and the function is dependent on the requirements of the backlight module.

17. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 14, wherein the driving current of the backlight module is determined by the steps of:

defining maximum and minimum values of the driving current and a plurality of intermediate values between the maximum and minimum values; and

designating the value of each driving current sequentially in accordance with the brightness distribution index.

18. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 14, wherein maximum and minimum values appearing on the driving current are dependent on the requirements of the backlight module.

19 – 20. (cancelled)